Armor Center Breach Laboratory

by Captain Dan McIntosh and Captain Scott D. King

The United States Army Armor Center is using an innovative approach to establish challenging training with less money. One such example is the Armor Center Breach Laboratory. This article deals with the Breach Lab, its development, and its potential applications.

Background Information

Prior to 1992, the Armor School conducted a live complex obstacle breach demonstration four times a year for Armor Officer Advanced Course (AOAC) students. However, the demonstrations, at a cost of $1,200,000 per year, were too expensive. In 1992, the Armor School initiated the Armor Center Breach Lab to offset the training value lost when the live demonstration was eliminated from training.

Initial plans called for the creation of four terrain models: Irvington, Kentucky; Fort Irwin (NTC), California; Hohenfels (CMTC), Germany; and Rodriguez Range (MPRC), South Korea.

These four terrain models enable students to train on various types of terrain in Asia, Europe, South America, and the Middle East. Each terrain model set, located in McPheeters Hall, consists of a small group scenario room, the approach march boards, the breach boards, and six training walls. Plans also call for the development of a mine warfare room.

Breach Lab Resources

The small group scenario room (classroom) is set up similar to the AOAC small group classroom. This classroom is equipped with a color television, VCR, overhead projector, mobile dry erase board, and three video tapes (a breach assault from the National Training Center, a live breach demonstration from Fort Knox, and a video on the effects of mines on tanks). Students can use the classroom as their planning cell while conducting troop-leading procedures.

The approach march board is a 1:2,000 scale board depicting the terrain from an assembly area (AA) to the objective. The approach board (12 Km x 40 Km) is divided into 27 numbered sections. The approach march board is large enough to conduct a brigade-size movement. Each section is capable of being separated from the others, allowing students to walk between sections for access to a given area. The primary design of the approach board is to train movement from the AA to the breach location, actions in the AA, rehearsals, and passage of lines.

The breach board, a 1:1,000 scale board, is an enlargement of a task force-size sector within the approach board breach area. The breach board focuses on the area in which a task force will conduct its deliberate breach. It is divided into nine separate numbered sections, enabling the students greater access to all areas of the terrain.

The approach and breach boards are surrounded by six training walls, illustrating task organization, breach tenets, a 1:50,000 map of the terrain, doctrinal template, pictures of breaching equipment organic to a heavy division engineer battalion, and breaching techniques. These six training walls serve as a stimulus and reminder to the students of assets available and techniques used in breaching obstacles.

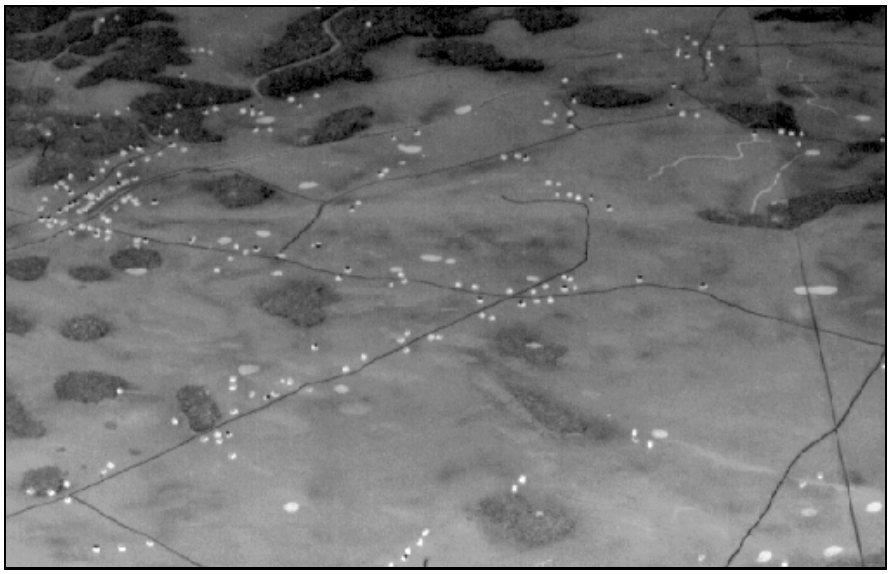
The mine warfare room, approximately 75 percent complete, will display current U.S. and threat mines including the Family of Scatterable Mines (FASCAM) and explosive submunitions. The purpose of the mine warfare room is to give students a general overview and familiarization.

Estimates of the cost for each terrain model were $37,500. The actual cost of the Irvington boards was $30,554.62. The actual cost of the NTC boards was $44,855.57. The cost of both scenario boards is well under the cost of one live demonstration. The boards provide students with more hands-on training.

Currently, the breach and approach boards for the Irvington scenario are complete. Plans call for completion of the Fort Irwin scenario this winter. The Irvington and NTC terrain boards will replicate the Korean and German training scenarios. On 1 April 1994, the breach lab officially opened for instruction.

Typical Scenario

The typical training sequence involves a two-hour block of instruction in an AOAC large group by the engi-



Approach March Board

Breach Board

Training Walls

Example of Mines in the Mine Warfare Room

neer instructor. This class gives a basic overview of the capabilities of the engineer company and battalion and also teaches the proper utilization of engineer assets. The small group instructor (SGI) reinforces the class with more detailed instruction on the engineer company/battalion, the equipment organic to the tank battalion, and how it is properly employed on the battlefield.

Students are prepared to execute "hands-on" training at McPheeters Hall following large group and small group classroom instruction. The SGI is responsible for assigning battalion staff and company commander positions to the students. He must also assign an OPFOR commander and ensure that a doctrinal OPFOR obstacle plan is in place. During this initial phase, students use the mine warfare room to get a better understanding of the various types of mines and to take advantage of the video tapes available in the classroom. The classroom becomes a planning cell for conducting troop-leading procedures based on an operations order given by the SGI.

The commanders conduct their initial terrain reconnaissance on the approach board while the staff conducts mission analysis. The approach board allows the students to conduct a thorough recon of the terrain and to conduct initial templating of possible enemy locations and obstacles. Following the commanders' reconnaissance, the company commanders and battalion staff then return to the approach board and conduct a detailed rehearsal using micro armor models (1:285 scale). The SGI and commanders then discuss in detail how they would conduct a deliberate breach, based on the staff's template of enemy locations and obstacles.

The mission is executed on JANUS following the terrain rehearsal. JANUS has the Irvington and NTC terrain data bases installed with the same dimensions as the terrain models. This allows the small group to make further refinements to its plan, based on terrain considerations and templated OPFOR actions.

After executing the mission on JANUS, the small group is prepared to conduct the mission against a defending enemy. The exercise begins on the approach board with movement from the AA through the line of departure (LD). The attacking element first encounters the defender's security obstacles, and later the tactical obstacles. Once contact is made with the tactical obstacles, the students transition to the breach board for a more detailed view of the obstacle location.

On the breach board, the students are able to see the doctrinal layout of the obstacles and the defender's positions. The SGI leads the students in a discussion on how they would apply the basic engineer breaching tenets of suppression, obscuration, security, and reduction (SOSR) in successfully breaching the obstacle. The students must then tactically deploy the TF and employ engineer assets to successfully breach the obstacle system. The students continue their mission by breaching the obstacle and assaulting onto their objective. The students would then have to perform either a hasty or in-stride breach of the defender's protective obstacles. The SGI conducts an

Breach Site

after-action review with the students once the mission is complete.

Future Applications

The breach lab trains students on how to conduct a breach with a reconnaissance, terrain rehearsal, JANUS exercise, and execution on the terrain board. This process gives students a thorough hands-on experience of breaching operations without the high cost of a live breaching demonstration. In the future, PCC, AOBC, ANCOC and BNCOC may also use the Armor Center Breach Lab to train breaching operations. The Armor School can incorporate the breach lab into CPX missions through the terrain models and JANUS. Though the actual breach on the ground cannot be replaced, the breach lab offers a viable alternative at a lower cost.

Captain Dan McIntosh is currently assistant S3, Warrior Brigade, Ft. Polk, La. His previous assignments include tank platoon leader, tank company XO, and battalion S4, in 2-70 Armor, Erlangen, Germany, and 2-72 Armor, Camp Casey, Korea. He is a graduate of AOBC, BMOC, Airborne School, NBC Officer Course, Scout Commanders Certification Course, AOAC, and Cav Leader's Course.

Captain Scott D. King is a 1988 graduate of the U.S. Military Academy. A graduate of AOBC, Infantry Mortar Platoon Officer Course, and AOAC, he served as a tank platoon leader, mortar platoon leader (DESERT STORM), HHC XO, and battalion S4 with 1-34 Armor, Ft. Riley, Kan. He is currently an Armor Officer Basic Course instructor with 2-16 Cavalry at Ft. Knox, Ky.